



Lasers and Detectors

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Detectors

- ◆ The Czech Technical University (Prochaska et al) reported on a space-qualified, Single Photon Avalanche Photodiode (SPAD) intended for use in a Laser Time Transfer Experiment sponsored by the Shanghai Observatory
- ◆ Characteristics:
 - QE: 10% @ 532 nm
 - Dark Count: 8 kHz
 - Timing Resolution: 80 psec
 - Active Area: 25 micron diameter
 - Weight: 2 g
 - Power Consumption: 0.5 W per channel
 - Operating Temperature Range: -30°C to 60°C

Lasers

- ◆ Russian researchers (Andreev et al) reported on a successful approach to generating moderate energy (many mJ's), 25 psec pulses, at kilohertz rates and at eyesafe wavelengths using Raman pulse compression and frequency conversion.
- ◆ Australian researchers (Gao et al) reported on diode-pumped lasers for tracking satellites and space debris
 - SLR: 10 psec pulses from a SESAM mode-locked laser oscillator, regenerative amplifier, and power amplifier
 - Debris: 230 W output power and 2 nsec pulsewidths from a multi-channel, multi-stage system consisting of a single frequency oscillator, pre-amps, power amplifiers, and SBS cells